

What is claimed is:

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1. ~~A system for simulating connection-oriented telephony functions in an IP network, comprising:~~

two or more IP routers interconnected with two or more call appliances on the the network; and

software managing setup and execution of IP calls between call appliances through the routers;

wherein IP calls are managed by the software by setting up separate and distinct end node legs between call appliances and routers, and separate and distinct intermediate legs between routers, and then joining and disjoining legs to establish voice communication and to provide telephony functions.

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2. ~~The system of claim 1 wherein call appliances include Interactive Voice Response(IVR) units, and wherein the system establishes end-node legs between IVRs and IP routers.~~

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3. ~~The system of claim 1 wherein, in providing telephony functions, call legs once established and joined may be disjoined and maintained in established state for future use to be rejoined to other established call legs.~~

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4. ~~The system of claim 1 wherein the software executes directly on one or more IP routers connected to the network.~~

5. ~~The system of claim 1 wherein the software executes on one or more processors enhancing IP routers on the network.~~

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6. The system of claim 1 further comprising a local area network (LAN) connecting end appliances at one or more of the IP routers, and wherein end-node legs are established via the LAN to appliances on the LAN.

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5 ~~7. A method for simulating connection-oriented telephony functions in an IP network, comprising steps of:~~

(a) interconnecting two or more IP routers with two or more call appliances on a network;

(b) setting up separate and distinct end-node call legs between call appliances and routers, and separate and distinct intermediate call legs between routers; and

(c) joining and disjoining legs to provide telephony functions.

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15 8. The method of claim 7 wherein call appliances include Interactive Voice Response (IVR) units, and wherein the system establishes end-node legs between IVRs and IP routers.

9. The method of claim 7 comprising steps for disjoining call legs of completed calls and maintaining one or more disjoined legs in established state for future use to be rejoined to other established call legs in providing telephony functions.

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20 10. The method of claim 7 wherein the software executes directly on one or more IP routers connected to the network.

25 11. The method of claim 7 wherein the software executes on one or more processors enhancing IP routers on the network.

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12. The method of claim 7 further comprising a local area network (LAN) connecting end appliances at one or more of the IP routers, and a step for establishing end-node legs via the LAN to appliances on the LAN.

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13. A method for establishing an IP telephone call from a first IP-capable appliance through first and second IP routers to a second IP-capable appliance, comprising steps of:

(a) setting up a separate and distinct end-node call leg between the first appliance and the first router;

10 (b) setting up a separate and distinct end-node call leg between the second appliance and the second router;

(c) setting up at least one separate and distinct intermediate call leg between the first and second IP routers; and

15 (d) joining the call legs to establish voice communication.

14. The method of claim 13 further comprising additional interconnected routers and appliances, and including steps for setting up further call legs to additional appliances and between routers, and for joining and disjoining call legs to establish voice communication by different paths over
20 established call legs.

15. The method of claim 14 wherein some call legs are maintained after being disjoined from active calls to be used later to be joined to other call legs to create other active calls.

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16. The method of claim 14 further comprising Interactive Voice Response (IVR) units, and wherein call legs are established to IVRs.

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wherein IP calls are managed by the software by setting up call legs between call appliances and routers, and between routers, which can then be manipulated, disjoined and joined to establish voice communication and to provide telephony functions.

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1. *Chlorophyll a* (Chl *a*) content was determined by measuring the optical density (OD) of a chlorophyll extract at 663 nm. The extract was prepared by grinding 0.1 g of fresh leaves in 10 mL of 80% methanol. The OD was measured using a spectrophotometer.